

## DETAILS OF THE WEATHER OF THE MONTH IN THE UNITED STATES.

## CYCLONES AND ANTICYCLONES.

By R. HANSON WEIGHTMAN, Meteorologist.

*Cyclones.*—Chart II shows tracks of 8 primary and 4 secondary lows distributed by regions of origin as indicated below. Low No. VIII has been included with the Alberta lows, although outside the limits of that region as shown on Chart I, Mo. WEA. REV., SUPPLEMENT No. 1. Low No. III-B is not included in the table.

	Al- berta.	North Paci- fic.	South Paci- fic.	North- ern Rocky Moun- tain.	Colo- rado.	Texas.	East Gulf.	South Atlant- ic.	Cent- ral.	To- tal.
January, 1920....	7.0	1.0	0.0	0.0	1.0	.....	.....	1.0	1.0	11.0
Average number, 1892-1912.....	4.7	2.5	0.9	0.4	1.4	1.5	0.4	0.4	0.5	12.7

The month is somewhat remarkable in that only one center passed through the Gulf States and that, with the exception of low No. II-B, the centers of disturbances kept well to the northward.

*Anticyclones.*—On Chart III are set out the tracks of 11 primary highs and 4 secondary highs or offshoots of the types indicated below.

	North Pacific.	South Pacific.	Al- berta.	Plateau and Rocky Moun- tain region.	Hudson Bay.	Total.
January, 1920.....	0.0	1.0	10.0	4.0	0.0	15.0
Average number, 1892-1912.....	0.8	0.6	5.5	1.7	0.4	9.0

The most important features were the persistence of high pressure over the northern and central Plateau regions from about the 7th to 18th or 19th, inclusive, and the abnormally high pressures recorded in connecting with high No. XI and high No. IX.

## THE WEATHER ELEMENTS.

By P. C. DAY, Climatologist and Chief of Division.

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## PRESSURE AND WINDS.

At the beginning of the year high pressure existed in the Plains region and a cold wave had advanced to the central valleys, while over the more eastern districts a low pressure area was moving over New England accompanied by light snow from the Great Lakes to New England, and by local rains in the Southeast. In the far West the weather was generally clear with continued cold in the Plateau region.

High pressure and severe cold prevailed over central and eastern districts until after the middle of the first decade and the coldest weather of the month was recorded during this period over the east Gulf and South Atlantic States. Minimum temperatures from 5° to 10° below zero F. were observed as far south as Tennessee and

North Carolina, and they were below freezing in all States to the southward, except along the immediate Gulf and Atlantic coasts and over portions of the Florida Peninsula. During the same period cold weather continued in the far West. The latter part of the decade had somewhat lower pressure in the central and eastern districts, with very general precipitation from the Plains region eastward, snow occurring over the northern, rain or snow over the central, and rain over southern districts, the rainfall being generally heavy from the Mississippi Valley northeastward to the headwaters of the Ohio. During this period high pressure continued in the far West and temperatures remained generally below the normal.

The first half of the second decade was without marked pressure variations although the barometer continued high in the Plateau region and moderately low along the northern border. By the middle of the decade low pressure had developed in the Plains region and during the following two days it moved into the central valleys and eastern districts, snow occurring quite generally from the Dakotas and Iowa eastward, and rain to the southward of the Ohio and along the Middle Atlantic coast. The latter part of the decade had generally high pressure in the central plateau, but along the northern border and generally over the central and eastern districts the pressure was comparatively low, particularly near the end when stormy conditions with more or less snow prevailed along the northern border from the Rocky Mountains to New England, extending southward during the early days of the last decade, at which time light snows occurred over many northern sections and rain was general to the southward, particularly about the 23d and 24th, when heavy falls occurred over extensive areas from Texas northeastward to the lower Ohio Valley. At the same time high pressure prevailed over the northern districts rising above 31 inches in eastern Montana, attended by the severest cold of the month. This high area moved along the northern border but its influence was felt far to the southward, freezing temperatures being experienced as far south as the Gulf coast. This was generally followed by lower pressure in the far northwest, accompanied by much warmer weather, and the highest temperatures of the month were recorded about this time over a large area from the upper Mississippi Valley westward.

During the latter part of the decade high pressure again prevailed over the northern districts, particularly on the 30th, when it became unusually high to the northward of the Dakotas attended by severe cold. At the end of the month this high pressure area covered the northeastern States and some of the highest barometer readings ever observed in that region were reported.

The average pressures for the month were above 30 inches and also above normal in all portions of the United States and likewise in Canada as far north as observations disclose.

The distribution of pressure during the month, particularly the prevalence of high areas along the northern border, favored winds with a northerly component over much of the country from the Great Plains eastward. Over the far western district the prevailing winds were likewise mostly from northerly points except from Montana westward, where they were frequently from the south. Severe winds were rather infrequent although they occurred very generally along the North Atlantic coast on the 14th and again on the 17th and 18th.